PATENT APPLN. NO. 10/591,070   **PATENT**
RESPONSE UNDER 37 C.F.R. §1.111   **NON-FINAL**

REMARKS

Claims 1, 9 and 18 have been amended to include the following second "wherein" clause: --wherein the random pulse interval of the random pulses is measured using clock pulses and an interval of the clock pulses is shorter than the interval of the random pulses--. The recitation "the random pulse interval of the random pulses is measured using clock pulses" in the second "wherein" clause is the same recitation that has been deleted from the first "wherein" clause except that the term --random-- has been added before "pulse interval" for clarity and consistency. The recitation "an interval of the clock pulses is shorter than the interval of the random pulses" in the second "wherein" clause is a new feature that finds support in Fig. 9 and the description of Fig. 9 in the specification of the present application (paragraph [0036] of US 2008/0235774 A1, the publication of the present application).

Referring to the Action, the objection to the claims has been overcome by inserting the term --random-- before "pulse interval" as suggested by the Office.

Claims 18-19 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. This rejection has been overcome by amending claims 18 and 19 to limit the computer readable memory medium of these claims to a --non-transitory--

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computer readable memory medium as also kindly suggested by the Office.

Claims 1-4, 8-11 and 15-19 are rejected in the Action under 35 U.S.C. § 103(a) as being unpatentable over Shi (EP 0957220) in view of Shilton (WO 99/41834). Claims 6 and 13 are rejected in the Action under 35 U.S.C. § 103(a) as being unpatentable over Shi (EP 0957220) in view of Shilton (WO 99/41834), and further in view of Barker (US 5076971).

These rejections are not believed to be proper for the reasons explained below. Withdrawal of the rejections is respectfully requested.

The Office in the paragraph bridging pages 3 and 4 of the Action characterizes the oscillator of Fig. 3 of Shi as a random pulse generator and asserts that the oscillator produces oscillations at a random frequency, i.e. random pulses (citing paragraph [0016] of Shi). I.e., the Office takes the position that paragraph [0016] of Shi describes "the oscillator produces at a random frequency" and concludes, therefore, the oscillator A of Fig. 3 corresponds to the random pulse generator of the present invention.

However, paragraph [0016] of Shi merely describes the characteristics of the invention of Shi, compared with a

traditional amplifying-limiting-sampling method.   "Oscillator" in paragraph [0016] does not specifically identify oscillator A in Fig. 3 of Shi.   Instead, "oscillator" in paragraph [0016] is apparently "VCO [voltage-controlled oscillator] C" in the same drawing.   In paragraph [0016], it is described that the oscillator of random oscillating frequency is used and an output of the oscillator is sampled, while "VCO" outputs a signal having an oscillating or variable frequency and an output of "VCO" is sampled as described in Paragraph [0017].   The descriptions in paragraphs [0016] and [0017] of Shi support a conclusion that the "oscillator" is "VCO C" in Fig. 3, but do not support the position of the Office that "oscillator" is oscillator A of Fig. 3 of Shi and corresponds to the random pulse generator of the present invention.

Additionally, the description, "the oscillator produces at a random frequency, i.e., random pulses" cited by the Office is not found in Shi, paragraph [0016].   As to "oscillator A", paragraph [0017] merely describes that it is adopted to drive a pseudo-random code (m-sequence) generator B.

Further, in the "Response to Arguments" section on page 17 of the Office Action, the Office states as follows:

"The random pulses are interpreted as the output of the oscillator A (see Shi, Paragraph [0016]), because the

oscillator outputs at a random oscillating frequency, i.e. random pulses. … Further, because a clock pulse series is used to sample data from the oscillator A, the data sampled from the oscillator is a number of the clock pulses that is acquired by measuring the random pulse interval of the random pulses."

However, as explained above, Shi, paragraph [0016], does not describe that the oscillator A is a random pulse generator, and as mentioned in Paragraph [0017], the oscillator A is merely adopted to drive a pseudo-random code (m-sequence) generator B. Accordingly, applicant respectfully submits the the position of the Office that the oscillator A outputs random pulses is not correct. Consequently, conclusions of the Office based on such position, such as the conclusion that a random pulse voltage corresponding to the random pulses generated by the oscillator A eventually becomes the control to the VCO as a random pulse (page 17 on the Office Action), are also not correct.

Further, in Shi, paragraph [0017], it is stated: "[t]he output signal from the VCO is then sampled by another independent pulse series of low frequency (lower than one tenth of the lowest frequency of VCO) so as to obtain a desired true random code." (lines 10-14). That is, as shown in the following drawing, the

number of random pulses (not the number of clock pulses) is counted

between the clock pulses of low frequency.

Random Pulses
(higher freq.)

| 3 | 2 | 5 | 2 | 4 |

Clock Pulses
(lower freq.)
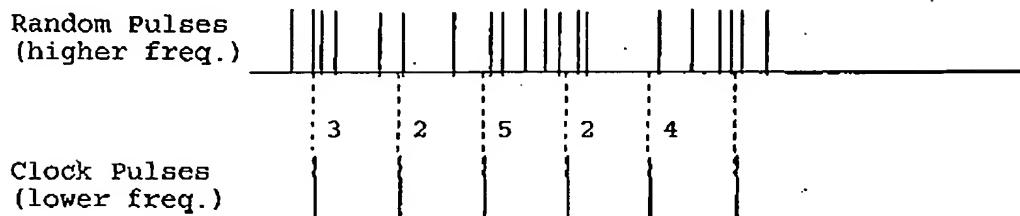
Therefore, applicant submits that the assertion of the Office,

that is, "the data sampled from the oscillator is a number of the

clock pulses that is acquired by measuring the random pulse

interval of the random pulses", is also not correct.

In contrast, in the present invention, as shown in Fig. 9 of

the present application and its description, the interval of the

random pulses is measured by counting the number of clock pulses

and the counted number of clock pulses can be used as a random

value. In order to clarify this difference from Shi, the following

limitation, as noted above, has been added to each of independent

claims 1, 9 and 18:

> --the random pulse interval of the random pulses is
>
> measured using clock pulses and an interval of the clock
>
> pulses is shorter than the interval of the random
>
> pulses--.

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The present invention as defined in the claims, therefore, is clearly different in structure from the cited prior art.

A notice of allowability of the present application is believed to be in order and is respectfully requested.

The foregoing is believed to be a complete and proper response to the Office Action dated August 17, 2011.

In the event that this paper is not considered to be timely filed, applicant hereby petitions for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

                               Respectfully submitted,

                               KUBOVCIK & KUBOVCIK
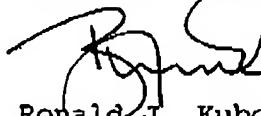
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